



SCIENCE BYTES

JANUARY 27, 2009 VOLUME 22

This is an information exchange that is available to all teachers in the Anchorage School District. Please read and then DO it!

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For your Calendar:

NSTA Conferences 2008-2009

2009 National NSTA Conference

New Orleans, LA – March 19-22, 2009

Science Fair 2008 - 2009

Alaska Science and Engineering Fair

March 27-29, 2008 @ Begich Middle School - Anchorage

Looking for volunteers for the SF Board.

Science Olympiad 2008-09

April 4, 2009 @ Begich Middle School - Anchorage

2009 - Alaska Math & Science Conference

INQUIRY - The Bridge to Understanding

October 14-17, 2009 Juneau, AK

Teacher-to-Teacher (T2T) Initiative

Dear Teacher-to-Teacher Family,

I want to update you on several new developments with the Teacher-to-Teacher Initiative.

We are pleased to announce the addition of two new digital workshops.

Girls in Math and Science - The latest research shows that encouraging girls in their pursuit of math and science education will be important in keeping the United States competitive. This workshop provides insights on ways to help girls - and boys - become energized, engaged and excited by the possibilities in these critical areas. This workshop is part of the Doing What Works initiative <https://www.t2tweb.us/doingwhatworks/home.asp>.

Blackfeet Skies - Some people look to the skies and see stars. The Blackfeet look at the sky and see the stories behind those stars. This workshop demonstrates ways to use Native culture and its stories to make the study of astronomy more memorable and inviting to students from all backgrounds. This is latest addition to our workshops designed for the teachers of Native American students <https://www.t2tweb.us/NativeAmerican/home.asp>.

I have been privileged to serve as Director of Teacher-to-Teacher since its beginning. We've come a long way since our first workshop in Denver in 2004, and hundreds of thousands of you have joined us along the way. It is now time for me to pursue new opportunities.

In anticipation of the transition to the new Administration, Teacher-to-Teacher has not scheduled additional activities for 2009. President-Elect Barack Obama and his Secretary of Education-Designate Arne Duncan are both committed to continuing the important work of ensuring that all students learn and thrive.

As President Bush has said, "There's nothing more noble than to teach." Please accept my deep appreciation and admiration for your work on behalf of our nation's children.

With tremendous gratitude,

Carolyn Snowbarger

Director, Teacher-to-Teacher

US Department of Education

Teaching Ambassador Fellowship

The U.S. Department of Education has announced the opening of applications for the Teaching Ambassador Fellowship at the U.S. Department of Education for the 2009-2010 school year. Currently practicing, state certified Pre-Kindergarten to 12th grade public school teachers and instructional specialists/coaches with at least three years of teaching experience are eligible to apply by March 16, 2009. For the 2008-2009 pilot year of the Fellowship program, 20 part-time Classroom Fellows

and 5 full-time Washington Fellows are serving as Teaching Ambassador Fellows, learning about and contributing to the national dialogue on education policy. For more information about the 2009-2010 Fellowship application and other opportunities to learn about federal education policy and public resources supporting classroom teaching and learning, visit <http://www.ed.gov/programs/teacherfellowship>.

NASA's Videoconferences

NASA's Digital Learning Network presents a series of videoconferences to assist educators in staying current on NASA education resources and related products.

During each event, product producers, authors and experts will demonstrate their materials designed to optimize awareness and understanding of science concepts. Instructional objectives, accessing the materials and primary contacts for the materials will also be discussed. During the videoconferences, participants will be able to submit questions to the presenter that will be addressed during the presentation.

The following topics will be covered:

STS-119: Jan. 28, 2009, 4-5 p.m. EST

Space shuttle Discovery is set to launch in mid-February 2009, for the STS-119 mission. Learn how spacesuits have changed since the Mercury program. As technology has developed over time, so has the sophistication of these garments used to protect astronauts on spacewalks. Join NASA's Johnson Space Center to learn about the history of the spacesuit, its transformations and the resources available to educate students about this important piece of astronaut couture!

Chemistry: What Is Your Cosmic Connection to the Elements?: Feb. 25, 2009, 4-5 p.m. EST

The elements that make up life itself reflect events that take place in the universe. Humankind's very existence is linked to these elements and their cosmic origin. Join in for discussions of the big bang theory, stars, supernovae, cosmic rays and other topics as participants learn more about the cosmic origin of the elements.

Kepler Mission: March 25, 2009, 4-5 p.m. EST

The Kepler mission will seek evidence for Earth-size planets in orbit around sun-like stars. For the first time NASA will be able to search the galaxy for Earth-size or smaller planets. With this cutting-edge capability, Kepler may help to answer one of the most enduring questions humans have asked throughout history: Are there others like us in the universe?

Meteorology: An Educators Resource Guide for

Inquiry-Based Learning: April 29, 2009, 4-5 p.m. EST
Meteorology is one of the oldest observational sciences in human history and perhaps the most relevant to a broad

segment of society. Learn how the first early meteorologists used this knowledge for their success and survival. This educator guide covers weather patterns, climate and measurement tools.

NASA Explores Virtual Worlds: May 27, 2009, 4-5 p.m. EST

Virtual immersive environments are increasing in popularity in modern America. Explore the virtual world that NASA education is building in Second Life and learn how to become an active citizen of this world.

For more information about these videoconferences and to sign up online, visit

<http://dln.nasa.gov/dln/content/webcast/>. Questions about these events should be directed to Caryn Long at caryn.long@nasa.gov.

ARMADA Project Applications Due

There is still time to apply to the ARMADA Project- Research and Mentoring Experiences for Teachers **Application must be postmarked by February 9, 2009**

The University of Rhode Island's Office of Marine Programs is now accepting applications for the ARMADA Project- Research and Mentoring Experiences for Teachers. The ARMADA Project, funded by the National Science Foundation, provides K-12 teachers an opportunity to actively participate in ocean, polar, and environmental science research and peer mentoring.

Selected Master Teachers (with five or more years teaching experience) are paired with leading scientists and participate in shipboard, field, or laboratory research. Research experiences will take place during the summer, although there may be opportunities during the school year. Upon completion of their research experience, Master Teachers develop ways to bring the fruits of their research experiences, including scientific data, methodologies, and technology into their classrooms. They share their experiences by mentoring new teachers in their school district and by presenting their results at the National Science Teachers Association National Conventions.

The ARMADA Project has placed teachers in research experiences all over the world. Past experiences include taking part in the largest North Pacific humpback whale study in the waters off the coast of Alaska, investigating the impacts of global change in the Arctic Ocean and the Antarctic, monitoring and assessing tidal creeks in South Carolina, studying the impact of human activity on dusky dolphins in New Zealand, identifying foraging behaviors of Antarctic Crabeater Seals, water circulation studies in the Norwegian Sea, and a variety of ecosystem

monitoring projects in the Bay of Fundy, Narragansett Bay, Gulf of Maine, Stellwagen Bank, Western Shelf of Florida, Sargasso Sea, Bahamas, Alaska, and Block Island Sound. See www.armadaproject.org <<http://www.armadaproject.org>> for more information on past research experiences.

For more information about teacher qualifications, responsibilities, and to download an application see the ARMADA Project website www.armadaproject.org <<http://www.armadaproject.org>> or contact Andrea Kecskes at 401-874-6211 or armada@gso.uri.edu.
ARMADA Project
Office of Marine Programs
Graduate School of Oceanography
University of Rhode Island
Narragansett Bay Campus
Narragansett, RI 02882
tel: 401-874-6524, fax: 401-874-6486
email: armada@gso.uri.edu
<http://www.armadaproject.org>

IPY Educational Posters Available for Download

For more information and to download the posters, please go to: <http://www.grida.no/polar/ipy/2839.aspx>

UNEP/GRID-Arendal, with financial support from the Research Council of Norway (Forskingsradet), prepared this set of posters for the International Polar Year (IPY). This project supports the education, outreach, and communication efforts of IPY. The posters present polar science issues to create awareness of IPY and its research activities.

The posters address the question: "Why, and how, are the polar regions and polar research important to all people on Earth?" These posters present and illustrate a broad sample of polar issues and facts - they are a "text-book" for your wall.

There are five posters, with high-school age students as the main target group. Each poster stands on its own, but is recognizable as part of the series through the common design and elements. All the posters include illustrations and text highlighting the human dimension of the poster theme - showing how people are affected by polar science and issues and why they should care. The poster titles are:

- The Polar Regions,
- Climate Change and the Poles,
- Polar People,
- Research in the Polar Regions, and
- Biodiversity and the Poles.

Posters are available in high resolution and accessible formats, in English and Norwegian texts. For more

information and to download the posters and graphics, please go to:
<http://www.grida.no/polar/ipy/2839.aspx>.

from ANROE e-Newsletter

Opportunities for Educators

Biology in the Bahamas

Application Deadline: February 28

Shedd Aquarium offers the Teacher Field Experience: Biology in the Bahamas program. Teachers will learn about marine science including oceanography, coral reef ecosystems, fish adaptations, and more while conducting their own research project in the Bahamas.

<http://www.sheddaquarium.org/teachers.html>

<<http://www.sheddaquarium.org/teachers.html>>

Opportunities for Youth

Write On! Wetlands Challenge

Deadline for entry: March 1

This competition, celebrating American Wetlands Month in May, challenges students to create a book written and illustrated by kids for kids. The contest, hosted by Environmental Concern Inc, asks students in grades 6-8 to write a children's book with a wetland theme. The winning entry will be illustrated by students in grades k-5 and published by Environmental Concern Inc. This year's theme is The Case of the Wetland Mysteries! All entries must be in the form of a mystery story.

http://www.wetland.org/education_writeon.htm

<http://www.wetland.org/education_writeon.htm>

Earth Day 2009 T-Shirt Design Contest

Deadline for entry: March 13

Have your students get involved for Earth Day 2009 by entering the Earth Day 2009 T-Shirt Design Contest sponsored by the National Environmental Science Education Center, Inc. There are four divisions: K-3, 4-6, 7-9, and 10-12.

<http://www.nesecenter.com/page13/page13.html>

<<http://www.nesecenter.com/page13/page13.html>>

Funding Opportunities

NEA Learning and Leadership Grants

Application deadline: February 1

The NEA Foundation Learning and Leadership Grants support public school teachers, public education support professionals, and/or faculty and staff in public institutions of higher education. Grants to individuals may fund participation in professional development experiences such as summer institutes or action research, while grants to groups fund collegial study, including

study groups, action research, lesson study, or mentoring experiences for faculty or staff new to an assignment. All professional development must improve practice, curriculum, and student achievement. Grants are awarded three times each year.

http://www.neafoundation.org/programs/Learning&Leadership_Guidelines.htm

<http://www.neafoundation.org/programs/Learning&Leadership_Guidelines.htm>

RESTORE: Children and Nature

Application deadline: February 15

RESTORE: Children and Nature, will establish partnerships with the US Fish and Wildlife Service to enhance the FWS Schoolyard Habitat program with teacher professional development and Earth Partnership for Schools' (EPS) K-12 curriculum. The project will focus on biodiversity, ecological restoration, pollution prevention, and ecological literacy. Contact Cheryl Bauer-Armstrong at cherylbauer@wisc.edu

<<mailto:cherylbauer@wisc.edu>> for information.

<http://uwarboretum.org/news/singlePost.php?id=298&origin=foa&activeCategory=13>

<<http://uwarboretum.org/news/singlePost.php?id=298&origin=foa&activeCategory=13>>

Resources for Educators

Coral Reef Activity Book

The Coral Reef Activity Book is the first in a series of thematic activity books from NOAA's National Centers for Coastal Ocean Science. This book includes fun and informative activities about the coral reefs and its inhabitants. These books are for grades K-5 and highlight the organisms and issues relevant to coral reefs. The book includes information on the reefs, fun facts, drawings to color, connect-the-dots, find-a-word puzzles, mazes, and other activities. The book can be downloaded from website, as can each of a series of regional ocean activity books. Hard copies can be requested by contacting Susan Baker at Susan.Baker@NOAA.gov

<<mailto:Susan.Baker@NOAA.gov>> .

<http://www.coastalscience.noaa.gov/education/>

<<http://www.coastalscience.noaa.gov/education/>>

Earth Partnership for Schools

The Earth Partnership Program, from the University of Wisconsin-Madison Arboretum, focuses on ecological restoration as a way of establishing a positive relationship between people and the land. The program assists teachers in establishing restoration projects on school sites and providing the tools for building a curricu-

lum that incorporates restoration into almost any subject area. The program includes a two-week institute in the summer and ongoing support from UW-Madison Arboretum staff to help schools with restoration planning and curriculum development. Check out the resources under Tools for Teachers. <http://uwarboretum.org/eps/>

Educational Resources from Busch Gardens and Sea World

SeaWorld, Busch Gardens, and Discovery Cove offer career resources; a Fun Zone with coloring books, song books and more; teacher resources with downloadable classroom activities, teacher guides; and much more. Take time to explore this website.

<http://www.swbg-animals.org/index.asp>

<<http://www.swbg-animals.org/index.asp>>

EarthKAM Winter 2009 Mission

Middle school educators are invited to join NASA for the International Space Station EarthKAM Winter 2009 Mission on Feb. 3-6, 2009. Find out more about this exciting opportunity that allows students to take pictures of Earth from a digital camera on board the International Space Station.

ISS EarthKAM is a NASA-sponsored project that provides stunning, high-quality photographs of Earth taken from the space shuttle and International Space Station. Since 1996, ISS EarthKAM students have taken thousands of photographs of Earth by using the World Wide Web to direct a digital camera on select spaceflights and, currently, on the International Space Station.

For more information about the project and to register for the upcoming mission, visit the ISS EarthKAM Home Page: www.EarthKAM.ucsd.edu.

If you have questions about the EarthKAM project, please e-mail ek-help@earthkam.ucsd.edu.

Earth Expeditions Global Field Courses

The due date to apply to Earth Expeditions' global field courses is fast approaching. Applications should be submitted at <http://www.EarthExpeditions.org> by Wednesday, January 28, 2009.

Earth Expeditioners travel to pivotal conservation hotspots in Kenya, Mongolia, Thailand, Trinidad, Costa Rica, Belize, and Namibia to engage in inquiry and conservation action.

Information about our new Global Field Master's Program is also located at <http://www.EarthExpeditions.org>. Earth Expeditions/Project Dragonfly
Miami University, Oxford, Ohio 45056

CCSC - February Fireside Chats

February 12: The Big Bang and Cosmology

What is the Big Bang and how does it explain the Universe? Where did the Universe come from, and what existed before it? And if there's an edge to the Universe, what's on the other side? Dr. Travis Rector, a professor in the physics and astronomy department at the University of Alaska Anchorage, will answer these questions and more. From the origins of the universe to the structure we understand today, he'll explain what we know, how we know it, and what mysteries remain about it. The program begins at 7:00 pm on Thursday February 12 at the BLM Campbell Creek Science Center (5600 Science Center Drive). Stargazing will follow if the skies are clear. For more information, please call 267-1247.

February 18: CSI Meets Indiana Jones TM

CSI. Cold Case. We're all familiar with television programs that figure out whodunit through careful crime scene analysis. But how do police officers know what to look for? How do they interpret the results? For some types of information, anthropology plays a big role. Join us as Alaska's State Archaeologist Dave McMahan explains the role anthropology plays in training law enforcement officials and helping solve crimes. The program begins at 7:00 pm on Wednesday February 18 at the BLM Campbell Creek Science Center (5600 Science Center Drive). For more information, please call 267-1247.

from EARTH SCIENCE WEEK UPDATE

American Geological Institute

For Geoscience, Check The Weather Channel

The Weather Channel, a longtime Earth Science Week partner, offers more than just up-to-date weather forecasts for over 77,000 locations worldwide. "The Weather Classroom" is an educational, half-hour television program on the channel that explores the science behind weather. For local airtimes, see <http://www.weather.com/wxclass/education>.

In addition, the channel's website at <http://www.weather.com> provides educational resources, interactive maps, and radar for regional and local purposes. For instance, "Weather Insights" is a free newsletter provided to educators every other month throughout the school year. Phone 1-800-471-5544 to get it by mail, or visit <http://www.weather.com/education> to print a copy.

Also online, "Teacher's Lounge" offers weather materials for teachers, including a weather encyclopedia, careers in meteorology, weather glossary, weather games, climate change information, weather videos, and standards-based lesson plans. Visit <http://www.theweatherchannelkids.com/weather-ed/teacher-resources> for more.

Earth Science Week Resources Online Year-Round

Earth Science Week is more than one week of the year. If you've got Internet access, you can teach and learn about Earth science all year long.

The Earth Science Week website offers loads of classroom activities, theme-based resources, research projects, local events and organizations, and careers information. Most importantly, the site features dozens of recommended lessons that teachers and parents can conduct with children. All are aligned with the National Science Education Standards. Check it out at <http://www.earthsciweek.org> today!

AAPG Offers Instructors Videos, Expert Speakers

With members ranging from professional geologists and corporate executives to students and academics, the American Association of Petroleum Geologists (AAPG) has plenty to offer Earth science educators. AAPG, a longtime AGI member society and Earth Science Week partner, aims to foster scientific research and promote the science of geology.

In addition to AGI's K-5 GeoSource and Earth Science Week sites, AAPG's K-12 Teaching Resources site at <http://www.aapg.org/k12resources> features the AAPG video library of more than 300 educational videos. AAPG's Youth Education Activities Committee is currently building and expanding this resource.

AAPG's Visiting Geoscientist program allows colleges and universities to arrange for a geoscientist to visit with a group of students for a full day or a half-day. Programs can include technical talks, a review of geoscience careers, and informal discussions. K-12 teachers also may request visits, though availability at the pre-college level is limited. To arrange a visit, go to <http://www.aapg.org/education/vgp>. (ASD check with Community Resources).

from T C E B

Triangle Coalition Electronic Bulletin

January 22, 2009 - Volume 15, Number 3 Online Version
<<http://www.trianglecoalition.org/curtceb.htm>>

TEAMS COMPETITION: "BEHIND THE SCENES: THEME PARKS"

With the theme, "Behind the Scenes: Theme Parks," Triangle Coalition member, the Junior Engineering Technical Society (JETS), has launched its TEAMS competition for the 30th school year to high school students throughout the country. Once again this year, the one-day TEAMS competition will provide 14,000 students in grades nine through 12 with the opportunity to make real-world connections between math and science to engineering by solving actual engineering scenarios. This year, students will discover the engineering involved in designing, building, and running America's theme parks. To bring the excitement of the competition directly into the hands of students across the country, JETS has partnered with Hot Lava Software to develop a series of short multiple-choice questions called JETS Bytes <<http://www.jets.org/explore/jetsbytes.cfm>> . JETS Bytes are posted bi-weekly online and have covered topics on roller coaster and water ride design, amusement park safety, park navigation, and animatronics. These same topics are the focus of the 2009 TEAMS Competition. While the content and scope of questions in the actual competition will be more academically challenging than the JETS Bytes, their intent is the same: to get students excited about engineering.

In all, five JETS Bytes will be developed with each topic containing three or four questions. As the opportunity increases for further development, JETS and Hot Lava Software hope to make the JETS Bytes available to mobile phone users and increase the awareness of the fun side of math, science, and engineering. JETS is dedicated to promoting engineering and technology careers to America's youth. From coordinating exciting student competitions to providing top academic resources, and career exploration materials, JETS is helping students make informed decisions about their futures and developing a new generation of engineers. Each year, JETS programs touch more than 40,000 students and 10,000 educators from 6,000 high schools across the country. JETS participants are a diverse group-more than 50 percent are from groups that are traditionally underrepresented in engineering and technology fields, including one-third who are female. For more information, [www.JETS.org](http://www.jets.org) <<http://www.jets.org/>>

Next Generation Scholarship Fund

The Next Generation Scholarship Fund is a joint effort by JETS and Power Engineering Magazine to increase student interest in the electric power industry by awarding \$5,000 scholarships for students to pursue a college engi-

neering education.

The scholarship is awarded annually to one or more students planning to pursue an engineering career in a field related to electric power generation (for example, chemical engineering, electrical engineering, nuclear engineering, mechanical engineering, or materials engineering). For more information, [www.JETS.org](http://www.jets.org) <<http://www.jets.org/>> .

"A DECADE OF DISCOVERY" FROM THE U.S. DEPARTMENT OF ENERGY

Finding new and better ways to detect and treat cancer, Parkinson's disease, and other debilitating diseases; developing new, cleaner, and sustainable fuels and technologies to power our vehicles and homes; safeguarding our nuclear weapons; and developing astonishing discoveries that are altering our understanding of the universe – these are just a few examples of research and discoveries performed by the U.S. Department of Energy's 17 National Laboratories located throughout the country. As part of an effort to highlight a decade of quality research and innovation at the National Laboratories, the Department has released a commemorative book entitled "A Decade of Discovery." The National Laboratories throughout the past decade have partnered with industry, business, government agencies, and other researchers in developing discoveries in energy and the environment, national security, and sciences crucial for our communities, the nation, and the world.

"As this book makes clear, collectively the Department's National Laboratories remain the single greatest scientific enterprise in the world," said U.S. Energy Secretary Samuel W. Bodman. "As a nation, we will continue to depend on the power and promise of science and engineering to push back the boundaries of what is possible. And therefore we will continue to depend on our National Laboratories and the remarkable men and women who work there." Since the founding of the first DOE laboratory more than 60 years ago, the complex has been associated with the recipients of more than 80 Nobel Prizes. "A Decade of Discovery" illuminates the world class advancements in science and technology, energy, and national security at the National Laboratories, a national success story in which all Americans should recognize and take pride. To learn more about the Department of Energy's "A Decade of Discovery," visit www.energy.gov/discovery <<http://www.energy.gov/discovery>> .



Anchorage Waterways Council presents

Ecology of Bears & Salmon in Anchorage

Friday, January 30, 6:00-9:00 pm

AWC business meeting and year in review 6-7 pm

Program begins at 7 pm.

BP Energy Center

Light Refreshments



www.anchoragereeks.org or call 272-7335.

Join the discussion with **moderator** William Saupe, Attorney;
Ashburn & Mason and **panel** members:

- o Biologist Sean Farley; Bear Inventory
- o Biologist Lance Trasky; Fish Habitat
- o Biologist Rick Sinnott; Chair, Anchorage Bear Committee
- o Elizabeth Manning; Anchorage Bear Committee
 - Education sub-Committee Chair
- o Brad Dunker; MOA; Anchorage Bear Committee Member

Panelists represent Alaska Department of Fish & Game, the Municipality of Anchorage, the newly formed Anchorage Bear Committee and private views.
